

Name of Work : Improvements to Roads and Drains in Thindlu colony, Narasipura layout, Kempegowdnagara and surrounding area in ward No. 09

Physical Requirements for Coarse Aggregate for Bituminous Concrete

	IS: 2386 Part-I, III & IV	Date: 03-02-2020
Lab I'd	ISO/IEC17025:2005	
Client	Bruhat Bengaluru Mahanagara Palike (BBMP) , Byatarayanapura, Bengaluru.	
Consultant	Transheight Consultants Private Limited	
Contractor	B.B Umesh (S.M.L.P Asphats)	
Customer Reference	BBMP/EE/BTP/WO/110/2019-20	
Source of Sample	Sample supplied by Agency	
Sample Condition	Satisfactory	
Date of Reciept	02-02-2020	
Sample Type	Bituminous Concrete (BC)	
Date of Test	03-02-2020	

Table 500-16 : Physical Requirements of Coarse Aggregate for Bituminous Concrete (BC)

Peperty	Test	Result	Specification	Method of Test
Partial Shape	Flakiness Index	21.25	Combination Flakiness & Elongation Index for BC is Maximum 35%	IS: 2386 Part-I
	Elongation Index	13.75		
Strength	Aggregate Impact Value	21.56	Maximum 24%	IS: 2386 Part-IV
Specific Gravity	Specific Gravity	2.45	Maximum 2.7	IS: 2386 Part-III
Water Absorption	Water Absorption	1.52%	Maximum 2%	IS: 2386 Part-III

Remarks:

Client

Contractor

Name of Work : Improvements to Roads and Drains in Thindlu colony, Narasipura layout, Kempegowdnagara and surrounding area in ward No. 09

Test Results of Gradation for Bituminous Concrete (BC)

IS 2386 (Part-1) 1963 (Reaffirmed-2007)

Date: 03-02-2020

Lab I'd	ISO/IEC17025:2005					
Client	Bruhat Bengaluru Mahanagara Palike (BBMP) , Byatarayanapura, Bengaluru.					
Consultant	Transheight Consultants Private Limited					
Contractor	B.B Umesh (S.M.L.P Asphats)					
Customer Reference	BBMP/EE/BTP/WO/110/2019-20					
Source of Sample	Sample supplied by Agency					
Sample Condition	Satisfactory					
Date of Receipt	02-02-2020					
Type of Mix	Bituminous Concrete (BC)					
Date of Test	03-02-2020					
Total wt of the sample (gms):			5000			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH Table 500-17 (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	176	176	3.5	96.5	90-100	Satisfactory
9.5	664	840	16.8	83.2	70-88	Satisfactory
4.75	1123	1963	39.3	60.7	53-71	Satisfactory
2.36	488	2451	49.0	51.0	42-56	Satisfactory
1.18	331	2782	55.6	44.4	34-48	Satisfactory
0.6	233	3015	60.3	39.7	26-38	Satisfactory
0.3	592	3607	72.1	27.9	18-28	Satisfactory
0.15	445	4052	81.0	19.0	12-20	Satisfactory
0.075	466	4518	90.4	9.6	4-10	Satisfactory
PAN	482	5000	100.0	0.0	0	Satisfactory

Remarks: Satisfactory



Client

Contractor

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B.B. Umesh

Name of Work : Improvements to Roads and Drains in Thindlu colony, Narasipura layout, Kempegowdnagara and surrounding area in ward No. 09

Test Report on Bitumen

IS: 1201-1220 (1978) (Reaffirmed-2004)

Date: 03-02-2020

Lab I'd ISO/IEC17025:2005

Client Bruhat Bengaluru Mahanagara Palike (BBMP) , Byatarayanapura, Bengaluru.

Consultant Transheight Consultants Private Limited

Contractor B.B Umesh (S.M.L.P Asphats)

Customer Reference BBMP/EE/BTP/WO/110/2019-20

Source of Sample Sample supplied by Agency

Date of Reciept 02-02-2020

Sample Type Bitumen (VG-30)

Date of Test 03-02-2020

Test Results

Sl. No	Name of Test	Result	Requirements as per IS: 73-2013
1	Penetration at 25°C, 1/10th mm	66	60 to 70
2	Softening Point, °C	51	Min. 47°C
3	Ductility, cm	52	Min. 40cm
4	Viscosity Test, Poise (Min)	2752	Range 2400-3600
5	Flash Point, °C	232	Min. 220°C

Remarks :



Client

Contractor

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B.B. Umesh

Name of Work : Improvements to Roads and Drains in Thindlu colony, Narasipura layout, Kempegowdnagara and surrounding area in ward No. 09

Test Result on Stability of Mix

IS: 1201 & 1220 (1978) (Reaffirmed-2004)

Date: 03-02-2020

Client Bruhat Bengaluru Mahanagara Palike (BBMP) , Byatarayanapura, Bengaluru.

Consultant Transheight Consultants Private Limited

Contractor B.B Umesh (S.M.L.P Asphats)

Customer Reference BBMP/EE/BTP/WO/110/2019-20

Source of Sample Sample supplied by Agency

Date of Reciept 02-02-2020

Sample Type Bitumen

Date of Test 03-02-2020

Test Results of the test conducted on the Bituminos Concrete (BC) mix sample are as follow

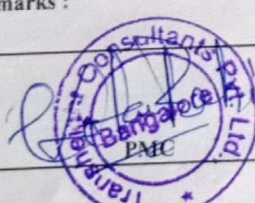
Sl. No	Name of Test	Test-1	Test-2	Specified limit as per MORTH specification table 500-11
1	Marshall Stability at 60°C	15.36	15.99	10 KN (Minimum)
2	Marshal flow at 60°C	2.9	3.1	2-4
3	Percentage air Voids	5.1	5.03	3-6
4	Percent Voids in mineral Aggregate (VMA %)	14.28	14.26	13-15
5	Percent Voids in mineral Bitumen (VFB %)	71.35	73.64	65-75
5	Density, g/cc	2.46	2.50	-

Remarks :



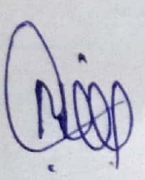
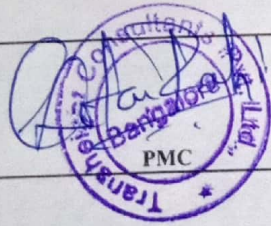
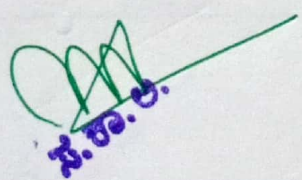
Client

Contractor

Name of work: Improvements to Roads and Drains in Thindlu colony, Narasipura layout, Kempegowdnagara and surrounding area in ward No. 09			
Determination of Flakiness Index and Elongation Index of Coarse Aggregate			
IS 2386 (Part-1) 1963 (Reaffirmed-2007)			Date: 05-02-2020
Lab I'd	ISO/IEC17025:2005		
Client	Bruhat Bengaluru Mahanagara Palike (BBMP), Byatarayanapura, Bengaluru.		
Consultant	Transheight Consultants Private Limited		
Contractor	B.B Umesh (S.M.L.P Asphats)		
Customer Reference	BBMP/EE/BTP/WO/110/2019-20		
Source of Sample	Sample supplied by Agency		
Sample Condition	Satisfactory		
Date of Reciept	04-02-2020		
Type of Mix	Coarse Aggregate for WMM (Wet Mix Macadam)		
Date of Test	05-02-2020		
Results			
Sl. No	Index	Percentage of Flakiness and Elongation Index	Specified limits as per MORTH (specification table 400-12)
1	Flakiness Index (%)	15.12	Combined Flakiness and Elongation Index for WMM is Maximum 35%
2	Elongation Index (%)	17.25	
3	Water Absorption (%)	0.94	Max 2%
4	Aggregate Impact Value (%)	14.28	Aggregate Impact Value for WMM is Maximum 35%
5	Dry Density (MDD) gm/cc	2.38	
6	Moisture in (OMC) %	4.42	
Remarks :			
		Client	Contractor

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B.B. U.

Name of work: Improvements to Roads and Drains in Thindlu colony, Narasipura layout, Kempegowdnagara and surrounding area in ward No. 09						
Test Results of Gradation for Wet Mix Macadam (WMM)						
IS: 2386 Part I					Date: 05-02-2020	
Lab I'd	ISO/IEC17025:2005					
Client	Bruhat Bengaluru Mahanagara Palike, Byatarayanapura, Bengaluru.					
Consultant	Transheight Consultants Private Limited					
Contractor	B.B Umesh (S.M.L.P Asphats)					
Customer Reference	BBMP/EE/BTP/WO/110/2019-20					
Source of Sample	Sample supplied by Agency					
Sample Condition	Satisfactory					
Date of Receipt	04-02-2020					
Type of Mix	Coarse Aggregate for WMM (Wet Mix Macadam)					
Date of Test	05-02-2020					
Total wt of the sample (gms):				11000		
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 400-13)	Remarks
53	0	0.0	0.00	100	100	Satisfactory
45	330	330.0	3.00	97.0	95-100	Satisfactory
22.4	3603	3932.5	35.75	64.3	60-80	Satisfactory
11.2	2310	6242.5	56.75	43.3	40-60	Satisfactory
4.75	2041	8283.0	75.30	24.7	25-40	Satisfactory
2.36	715	8998.0	81.80	18.2	15-30	Satisfactory
0.6	990	9988.0	90.80	9.2	8-22	Satisfactory
0.075	935	10923.0	99.30	0.7	0-5	Satisfactory
Remarks: Satisfactory						
  PMC Client  Contractor						

Name of work: Improvements to Roads and Drains in Thindlu colony, Narasipura layout, Kempegowdnagara and surrounding area in ward No. 09

FIELD DENSITY BY SAND REPLACEMENT METHOD

IS 2720 (Part-28)

Date: 14-02-2020

Lab I'd	ISO/IEC17025:2005		
Client	Bruhat Bengalore Mahanagara Palike, Byatarayanapura, Bengaluru.		
Consultant	Transheight Consultants Private Limited		
Contractor	B.B Umesh (S.M.L.P Asphats)		
Customer Reference	BBMP/EE/BTP/WO/110/2019-20		
Source of Sample	Sample supplied by Agency		
Sample Condition	Satisfactory		
Type of Mix	Coarse Aggregate for WMM (Wet Mix Macadam)		
Date of Test	14-02-2020		
Description of materials:		Subgrade	
Lab.MDD (gm/cc) =		2.380	Lab.OMC(%) = 5.59
Bulk Density of sand:		1.385	Sand retained in cone (gm)=W1 848.00

FIELD DENSITY BY SAND REPLACEMENT METHOD

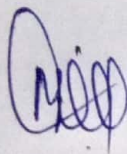
SL.no	Particulars	S-1	S-2
1	Wt of soil from hole (w2) gm:	5344.65	5342.40
2	Wt of sand + cylinder before pouring (gm) (w3)	15000.00	15000.00
3	Wt of sand + cylinder after pouring (gm) (w4)	11165.75	11168.07
4	Wt of sand in hole (gm) (w5 = w3 - w4 - w1)	2986.25	2983.93
5	Volume of sand in hole (V = W5/Ysand)	2156.13	2154.46
6	Bulk density (gm/cc) (Yb = W2/v)	2.48	2.48
7	Moisture meter reading (%)	6.05	6.25
8	Dry density (g/cc) Yd = Yb / (1 + w/100)	2.34	2.33
9	Degree of compaction achieved, (%) (Yd/mdd)*100	98.21	98.06
10	Required degree of compaction, (%) ,As per MORT&H 5th specification.	98.14	

Remarks: Satisfactory



Client

Contractor




Name of work: Improvements to Roads and Drains in Thindlu colony, Narasipura layout, Kempegowdnagara and surrounding area in ward No. 09

FIELD DENSITY BY SAND REPLACEMENT METHOD

IS 2720 (Part-28)

Date: 29-02-2020

Lab I'd	ISO/IEC17025:2005		
Client	Bruhat Bengalore Mahanagara Palike, Byatarayanapura, Bengaluru.		
Consultant	Transheight Consultants Private Limited		
Contractor	B.B Umesh (S.M.L.P Asphats)		
Customer Reference	BBMP/EE/BTP/WO/110/2019-20		
Source of Sample	Sample supplied by Agency		
Sample Condition	Satisfactory		
Type of Mix	Coarse Aggregate for WMM (Wet Mix Macadam)		
Date of Test	29-02-2020		
Description of materials:	Subgrade		
Lab.MDD (gm/cc) =	2.380	Lab.OMC(%) =	5.59
Bulk Density of sand:	1.385	Sand retained in cone (gm)=W1	848.00

FIELD DENSITY BY SAND REPLACEMENT METHOD

SL.no	Particulars	S-1	S-2
1	Wt of soil from hole (w2) gm:	5351.00	5349.00
2	Wt of sand + cylinder before pouring (gm) (w3)	15000.00	15000.00
3	Wt of sand+ cylinder after pouring (gm)(w4)	11151.04	11172.49
4	Wt of sand in hole (gm)(w5= w3-w4-w1)	3000.96	2979.51
5	Volume of sand in hole (V = W5/Ysand)	2166.76	2151.27
6	Bulk density (gm/cc) (Yb= W2/v)	2.47	2.49
7	Moisture meter reading (%)	5.72	6.02
8	Dry density (g/cc) Yd = Yb / (1 + w/100)	2.34	2.35
9	Degree of compaction achieved, (%) (Yd/mdd)*100	98.15	98.54
10	Required degree of compaction, (%) ,As per MORT&H 5th specification.	98.35	

Remarks: Satisfactory



Client

Contractor

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Name of Work : Improvements to Roads and Drains in Thindla colony, Narasipura layout, Kemppegowdnagara and surrounding area in ward No. 09

Test Results of Bitumen Binder Content and Gradation for Bituminous Macadam (BM-II)

IS 2386 (Part-1) 1963 (Reaffirmed-2011)

Date: 14-02-2020

Lab I'd	ISO/IEC17025:2005
Client	Bruhat Bangalore Mahanagara Palike (BBMP) , Byatarayanapura, Bengaluru.
Consultant	Transheight Consultants Private Limited
Contractor	B.B Umesh (S.M.L.P Asphats)
Customer Reference	BBMP/EE/BTP/WO/110/2019-20
Source of Sample	Sample supplied by Agency
Type of Mix	Bituminous Macadam (BM-II)
Date of Test	14-02-20

Calculation

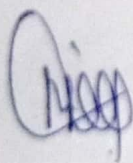
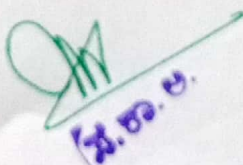
	Chainage:		
	Trial 1	Trial 2	Trial 3
Wt of empty Bowl (g)	1031	1032	1034
Wt of empty Bowl + Mix before extraction (g)	1531	1532	1534
Wt of empty Bowl + Mix after extraction (g)	1514.4	1515.5	1517.3
Wt of filter paper before extraction (g)	3.5	3.5	3.5
Wt of filter paper after extraction (g)	5.2	5.3	5.35
Wt of fines (g)	1.7	1.8	1.85
Wt of aggregate (g)	485.12	485.25	485.1
Wt of bitumin (g)	16.58	16.55	16.75
% binder contents in mix	3.42	3.41	3.45
Avg binder contents in mix (%)	3.43		

Remarks :



Client

Contractor

Test Results of Bitumen Binder Content and Gradation for Bituminous Macadam (BM-II)						
						Date: 14-02-2020
After Extraction (Trial-1)						
Total wt of the sample (gms):			485.12			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-17) (Grading-II)	Remarks
26.5	0	0	0.0	100	100	Satisfactory
19	8	8	1.6	98.4	90-100	Satisfactory
13.2	61	69	14.2	85.8	56-88	Satisfactory
4.75	282	351	72.4	27.6	16-36	Satisfactory
2.36	51	402	82.9	17.1	4-19	Satisfactory
0.3	69	471	97.1	2.9	2-10	Satisfactory
0.075	13	484	99.8	0.2	0-8	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-2)						
Total wt of the sample (gms):			485.25			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
26.5	0	0	0.0	100	100	Satisfactory
19	10	10	2.1	97.9	90-100	Satisfactory
13.2	77	87	17.9	82.1	56-88	Satisfactory
4.75	302	389	80.2	19.8	16-36	Satisfactory
2.36	52	441	90.9	9.1	4-19	Satisfactory
0.3	32	473	97.5	2.5	2-10	Satisfactory
0.075	8	481	99.2	0.8	0-8	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-3)						
Total wt of the sample (gms):			485.1			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
26.5	0	0	0.0	100	100	Satisfactory
19	11	11	2.3	97.7	90-100	Satisfactory
13.2	82	93	19.2	80.8	56-88	Satisfactory
4.75	310	403	83.1	16.9	16-36	Satisfactory
2.36	37	440	90.7	9.3	4-19	Satisfactory
0.3	33	473	97.5	2.5	2-10	Satisfactory
0.075	8	481	99.2	0.8	0-8	Satisfactory
Remarks: Satisfactory						
			Client	Contractor		



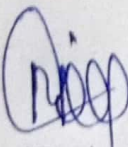
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Name of work - Improvements to Roads and Drains in Thindly colony
Narasimhpura layout, Kanegondanagar and surrounding area in ward 10-09

Test Results of Bitumen Binder Content and Gradation for Bituminous Macadam (BM-II)

IS 2386 (Part-I) 1963 (Reaffirmed-2011)		Date: 29-02-2020	
Lab I'd	ISO/IEC17025:2005		
Client	Bruhat Bangalore Mahanagara Palike (BBMP), Byatarayanapura, Bengaluru.		
Consultant	Transheight Consultants Private Limited		
Contractor	B.B Umesh (S.M.L.P Asphats)		
Customer Reference	BBMP/EE/BTP/WO/110/2019-20		
Source of Sample	Sample supplied by Agency		
Type of Mix	Bituminous Macadam (BM-II)		
Date of Test	29-02-20		
Calculation			
	Chainage:		
	Trial 1	Trial 2	Trial 3
Wt of empty Bowl (g)	1035	1034	1032
Wt of empty Bowl + Mix before extraction (g)	1535	1534	1532
Wt of empty Bowl + Mix after extraction (g)	1518.4	1517.3	1515.3
Wt of filter paper before extraction (g)	3.5	3.5	3.5
Wt of filter paper after extraction (g)	5.5	5.22	5.16
Wt of fines (g)	2	1.72	1.66
Wt of aggregate (g)	485.40	484.97	484.96
Wt of bitumin (g)	16.6	16.75	16.7
% binder contents in mix	3.42	3.45	3.44
Avg binder contents in mix (%)	3.44		
Remarks :			
 Client  Contractor			

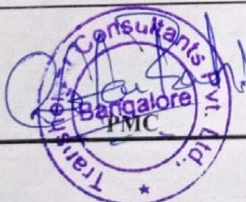


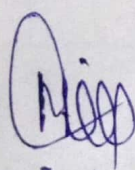
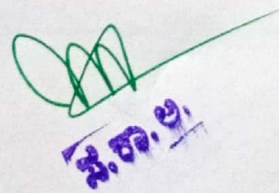

Test Results of Bitumen Binder Content and Gradation for Bituminous Macadam (BM-II)						
						Date: 29-02-2020
After Extraction (Trial-1)						
Total wt of the sample (gms):				485.4		
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-17) (Grading-II)	Remarks
26.5	0	0	0.0	100	100	Satisfactory
19	10	10	2.1	97.9	90-100	Satisfactory
13.2	89	99	20.4	79.6	56-88	Satisfactory
4.75	304	403	83.0	17.0	16-36	Satisfactory
2.36	40	443	91.3	8.7	4-19	Satisfactory
0.3	32	475	97.9	2.1	2-10	Satisfactory
0.075	9	484	99.7	0.3	0-8	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-2)						
Total wt of the sample (gms):				484.97		
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
26.5	0	0	0.0	100	100	Satisfactory
19	9	9	1.9	98.1	90-100	Satisfactory
13.2	92	101	20.8	79.2	56-88	Satisfactory
4.75	306	407	83.8	16.2	16-36	Satisfactory
2.36	30	437	90.0	10.0	4-19	Satisfactory
0.3	38	475	97.9	2.1	2-10	Satisfactory
0.075	6	481	99.1	0.9	0-8	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-3)						
Total wt of the sample (gms):				484.96		
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
26.5	0	0	0.0	100	100	Satisfactory
19	12	12	2.5	97.5	90-100	Satisfactory
13.2	98	110	22.7	77.3	56-88	Satisfactory
4.75	291	401	82.6	17.4	16-36	Satisfactory
2.36	36	437	90.0	10.0	4-19	Satisfactory
0.3	40	477	98.3	1.7	2-10	Satisfactory
0.075	5	482	99.3	0.7	0-8	Satisfactory
Remarks: Satisfactory						
				Client	Contractor	



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S. M. S.

Name of Work : Improvements to Roads and Drains in Thindlu colony, Narasipura layout, Kempegowdnagara and surrounding area in ward No. 09			
Test Results of Bitumen Binder Content and Gradation for Bituminous Concrete (BC)			
IS 2386 (Part-1) 1963 (Reaffirmed-2011)		Date: 14-02-2020	
Lab I'd	ISO/IEC17025:2005		
Client	Bruhat Bengalore Mahanagara Palike (BBMP) , Byatarayanapura, Bengaluru.		
Consultant	Transheight Consultants Private Limited		
Contractor	B.B Umesh (S.M.L.P Asphats)		
Customer Reference	BBMP/EE/BTP/WO/110/2019-20		
Source of Sample	Sample supplied by Agency		
Type of Mix	Bituminous Concrete (BC)		
Date of Test	14-02-20		
Calculation			
	Chainage:		
	Trial 1	Trial 2	Trial 3
Wt of empty Bowl (g)	1034	1033	1035
Wt of empty Bowl + Mix before extraction (g)	1534	1533	1535
Wt of empty Bowl + Mix after extraction (g)	1507.7	1507.1	1508.9
Wt of filter paper before extraction (g)	3.5	3.5	3.5
Wt of filter paper after extraction (g)	5.38	5.62	5.42
Wt of fines (g)	1.88	2.12	1.92
Wt of aggregate (g)	475.53	476.17	475.77
Wt of bitumin (g)	26.35	25.95	26.15
% binder contents in mix	5.54	5.45	5.50
Avg binder contents in mix (%)	5.50		
Remarks :			
 Client Contractor			

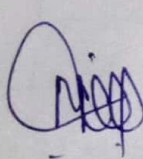
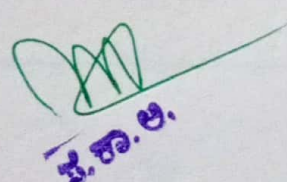



Test Results of Bitumen Binder Content and Gradation for Bituminous Concrete (BC)						
						Date: 14-02-2020
After Extraction (Trial-1)						
Total wt of the sample (gms):				475.53		
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-17) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	11	11	2.3	97.7	90-100	Satisfactory
9.5	75	86	18.1	81.9	70-88	Satisfactory
4.75	112	198	41.6	58.4	53-71	Satisfactory
2.36	75	273	57.4	42.6	42-56	Satisfactory
1.18	24	297	62.5	37.5	34-48	Satisfactory
0.6	18	315	66.2	33.8	26-38	Satisfactory
0.3	41	356	74.9	25.1	18-28	Satisfactory
0.15	42	398	83.7	16.3	12-20	Satisfactory
0.075	38	436	91.7	8.3	4-10	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-2)						
Total wt of the sample (gms):				476.17		
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	14	14	2.9	97.1	90-100	Satisfactory
9.5	72	86	18.1	81.9	70-88	Satisfactory
4.75	78	164	34.5	65.5	53-71	Satisfactory
2.36	80	244	51.3	48.7	42-56	Satisfactory
1.18	30	274	57.6	42.4	34-48	Satisfactory
0.6	25	299	62.9	37.1	26-38	Satisfactory
0.3	45	344	72.3	27.7	18-28	Satisfactory
0.15	48	392	82.4	17.6	12-20	Satisfactory
0.075	38	430	90.4	9.6	4-10	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-3)						
Total wt of the sample (gms):				475.77		
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	11	11	2.3	97.7	90-100	Satisfactory
9.5	75	86	18.1	81.9	70-88	Satisfactory
4.75	108	194	40.8	59.2	53-71	Satisfactory
2.36	75	269	56.6	43.4	42-56	Satisfactory
1.18	32	301	63.3	36.7	34-48	Satisfactory
0.6	22	323	67.9	32.1	26-38	Satisfactory
0.3	41	364	76.5	23.5	18-28	Satisfactory
0.15	38	402	84.5	15.5	12-20	Satisfactory
0.075	40	442	92.9	7.1	4-10	Satisfactory
Remarks: Satisfactory						
			Client	Contractor		

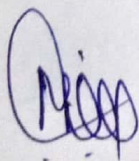
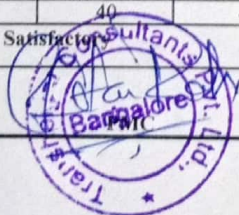
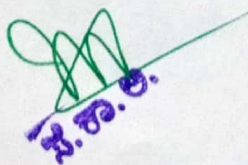
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S. S. S.

Name of Work : Improvements to Roads and Drains in Thindlu colony, Narasipura layout, Kempegowdnagara and surrounding area in ward No. 09			
Test Results of Bitumen Binder Content and Gradation for Bituminous Concrete (BC)			
IS 2386 (Part-1) 1963 (Reaffirmed-2011)			Date: 14-02-2020
Lab I'd	ISO/IEC17025:2005		
Client	Bruhat Bangalore Mahanagara Palike (BBMP) , Byatarayanapura, Bengaluru.		
Consultant	Transheight Consultants Private Limited		
Contractor	B.B Umesh (S.M.L.P Asphats)		
Customer Reference	BBMP/EE/BTP/WO/110/2019-20		
Source of Sample	Sample supplied by Agency		
Type of Mix	Bituminous Concrete (BC)		
Date of Test	14-02-20		
Calculation			
	Chainage:		
	Trial 1	Trial 2	Trial 3
Wt of empty Bowl (g)	1034	1033	1035
Wt of empty Bowl + Mix before extraction (g)	1534	1533	1535
Wt of empty Bowl + Mix after extraction (g)	1507.7	1507.1	1508.9
Wt of filter paper before extraction (g)	3.5	3.5	3.5
Wt of filter paper after extraction (g)	5.38	5.62	5.42
Wt of fines (g)	1.88	2.12	1.92
Wt of aggregate (g)	475.53	476.17	475.77
Wt of bitumin (g)	26.35	25.95	26.15
% binder contents in mix	5.54	5.45	5.50
Avg binder contents in mix (%)	5.50		
Remarks :			
 Client Contractor			

Test Results of Bitumen Binder Content and Gradation for Bituminous Concrete (BC)						
Date: 14-02-2020						
After Extraction (Trial-1)						
Total wt of the sample (gms):			475.53			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-17) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	11	11	2.3	97.7	90-100	Satisfactory
9.5	75	86	18.1	81.9	70-88	Satisfactory
4.75	112	198	41.6	58.4	53-71	Satisfactory
2.36	75	273	57.4	42.6	42-56	Satisfactory
1.18	24	297	62.5	37.5	34-48	Satisfactory
0.6	18	315	66.2	33.8	26-38	Satisfactory
0.3	41	356	74.9	25.1	18-28	Satisfactory
0.15	42	398	83.7	16.3	12-20	Satisfactory
0.075	38	436	91.7	8.3	4-10	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-2)						
Total wt of the sample (gms):			476.17			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	14	14	2.9	97.1	90-100	Satisfactory
9.5	72	86	18.1	81.9	70-88	Satisfactory
4.75	78	164	34.5	65.5	53-71	Satisfactory
2.36	80	244	51.3	48.7	42-56	Satisfactory
1.18	30	274	57.6	42.4	34-48	Satisfactory
0.6	25	299	62.9	37.1	26-38	Satisfactory
0.3	45	344	72.3	27.7	18-28	Satisfactory
0.15	48	392	82.4	17.6	12-20	Satisfactory
0.075	38	430	90.4	9.6	4-10	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-3)						
Total wt of the sample (gms):			475.77			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	11	11	2.3	97.7	90-100	Satisfactory
9.5	75	86	18.1	81.9	70-88	Satisfactory
4.75	108	194	40.8	59.2	53-71	Satisfactory
2.36	75	269	56.6	43.4	42-56	Satisfactory
1.18	32	301	63.3	36.7	34-48	Satisfactory
0.6	22	323	67.9	32.1	26-38	Satisfactory
0.3	41	364	76.5	23.5	18-28	Satisfactory
0.15	38	402	84.5	15.5	12-20	Satisfactory
0.075	40	442	92.9	7.1	4-10	Satisfactory
Remarks: Satisfactory						
Client			Contractor			

Name of Work : Improvements to Roads and Drains in Thindlu colony, Narasipura layout,
Kempegowdnagara and surrounding area in ward No. 09

Test Results of Bitumen Binder Content and Gradation for Bituminous Concrete (BC)

IS 2386 (Part-1) 1963 (Reaffirmed-2011)

Date: 14-02-2020

Lab I'd	ISO/IEC17025:2005
Client	Bruhat Bengaluru Mahanagara Palike (BBMP) , Byatarayanapura, Bengaluru.
Consultant	Transheight Consultants Private Limited
Contractor	B.B Umesh (S.M.L.P Asphats)
Customer Reference	BBMP/EE/BTP/WO/110/2019-20
Source of Sample	Sample supplied by Agency
Type of Mix	Bituminous Concrete (BC)
Date of Test	14-02-20

Calculation

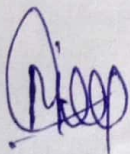
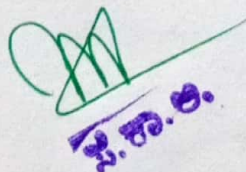
	Chainage:		
	Trial 1	Trial 2	Trial 3
Wt of empty Bowl (g)	1034	1033	1035
Wt of empty Bowl + Mix before extraction (g)	1534	1533	1535
Wt of empty Bowl + Mix after extraction (g)	1508.0	1506.9	1509.0
Wt of filter paper before extraction (g)	3.5	3.5	3.5
Wt of filter paper after extraction (g)	5.33	5.67	5.39
Wt of fines (g)	1.83	2.17	1.89
Wt of aggregate (g)	475.83	476.07	475.9
Wt of bitumin (g)	26	26.1	25.99
% binder contents in mix	5.46	5.48	5.46
Avg binder contents in mix (%)	5.47		

Remarks :

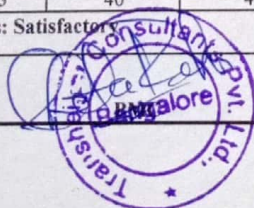


Client

Contractor

Test Results of Bitumen Binder Content and Gradation for Bituminous Concrete (BC)						
						Date: 14-02-2020
After Extraction (Trial-1)						
Total wt of the sample (gms):			475.83			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-17) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	14	14	2.9	97.1	90-100	Satisfactory
9.5	71	85	17.9	82.1	70-88	Satisfactory
4.75	112	197	41.4	58.6	53-71	Satisfactory
2.36	87	284	59.7	40.3	42-56	Satisfactory
1.18	27	311	65.4	34.6	34-48	Satisfactory
0.6	21	332	69.8	30.2	26-38	Satisfactory
0.3	44	376	79.0	21.0	18-28	Satisfactory
0.15	46	422	88.7	11.3	12-20	Satisfactory
0.075	41	463	97.3	2.7	4-10	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-2)						
Total wt of the sample (gms):			476.07			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	16	16	3.4	96.6	90-100	Satisfactory
9.5	80	96	20.2	79.8	70-88	Satisfactory
4.75	103	199	41.8	58.2	53-71	Satisfactory
2.36	84	283	59.5	40.5	42-56	Satisfactory
1.18	30	313	65.8	34.2	34-48	Satisfactory
0.6	14	327	68.7	31.3	26-38	Satisfactory
0.3	51	378	79.4	20.6	18-28	Satisfactory
0.15	35	413	86.8	13.2	12-20	Satisfactory
0.075	40	453	95.2	4.8	4-10	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-3)						
Total wt of the sample (gms):			475.9			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	13	13	2.7	97.3	90-100	Satisfactory
9.5	74	87	18.3	81.7	70-88	Satisfactory
4.75	112	199	41.8	58.2	53-71	Satisfactory
2.36	75	274	57.6	42.4	42-56	Satisfactory
1.18	36	310	65.1	34.9	34-48	Satisfactory
0.6	28	338	71.0	29.0	26-38	Satisfactory
0.3	46	384	80.7	19.3	18-28	Satisfactory
0.15	30	414	87.0	13.0	12-20	Satisfactory
0.075	40	454	95.4	4.6	4-10	Satisfactory
Remarks: Satisfactory						
			Client		Contractor	



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Name of Work : Improvements to Roads and Drains in Thindlu colony, Narasipura layout,
Kempegowdnagara and surrounding area in ward No. 09

Test Results of Bitumen Binder Content and Gradation for Bituminous Concrete (BC)

IS 2386 (Part-1) 1963 (Reaffirmed-2011)

Date: 29-02-2020

Lab I'd	ISO/IEC17025:2005
Client	Bruhat Bengaluru Mahanagara Palike (BBMP), Byatarayanapura, Bengaluru.
Consultant	Transheight Consultants Private Limited
Contractor	B.B Umesh (S.M.L.P Asphats)
Customer Reference	BBMP/EE/BTP/WO/110/2019-20
Source of Sample	Sample supplied by Agency
Type of Mix	Bituminous Concrete (BC)
Date of Test	29-02-20

Calculation

	Chainage:		
	Trial 1	Trial 2	Trial 3
Wt of empty Bowl (g)	1031	1031	1032
Wt of empty Bowl + Mix before extraction (g)	1531	1531	1532
Wt of empty Bowl + Mix after extraction (g)	1505.3	1505.1	1506.2
Wt of filter paper before extraction (g)	3.5	3.5	3.5
Wt of filter paper after extraction (g)	5.33	5.67	5.39
Wt of fines (g)	1.83	2.17	1.89
Wt of aggregate (g)	476.1	476.3	476.1
Wt of bitumin (g)	25.75	25.9	25.8
% binder contents in mix	5.41	5.44	5.42
Avg binder contents in mix (%)	5.42		

Remarks :



Client

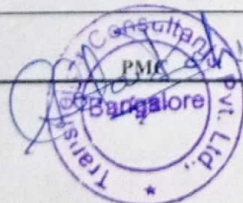
Contractor

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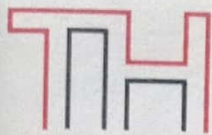
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S. B. S.

Test Results of Bitumen Binder Content and Gradation for Bituminous Concrete (BC)						
Date: 29-02-2020						
After Extraction (Trial-1)						
Total wt of the sample (gms):				476.08		
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-17) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	12	12	2.5	97.5	90-100	Satisfactory
9.5	77	89	18.7	81.3	70-88	Satisfactory
4.75	110	199	41.8	58.2	53-71	Satisfactory
2.36	85	284	59.7	40.3	42-56	Satisfactory
1.18	26	310	65.1	34.9	34-48	Satisfactory
0.6	20	330	69.3	30.7	26-38	Satisfactory
0.3	42	372	78.1	21.9	18-28	Satisfactory
0.15	44	416	87.4	12.6	12-20	Satisfactory
0.075	40	456	95.8	4.2	4-10	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-2)						
Total wt of the sample (gms):				476.27		
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	15	15	3.2	96.8	90-100	Satisfactory
9.5	78	93	19.5	80.5	70-88	Satisfactory
4.75	101	194	40.7	59.3	53-71	Satisfactory
2.36	80	274	57.6	42.4	42-56	Satisfactory
1.18	32	306	64.3	35.7	34-48	Satisfactory
0.6	13	319	67.0	33.0	26-38	Satisfactory
0.3	48	367	77.1	22.9	18-28	Satisfactory
0.15	46	413	86.8	13.2	12-20	Satisfactory
0.075	41	454	95.4	4.6	4-10	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-3)						
Total wt of the sample (gms):				476.09		
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	12	12	2.5	97.5	90-100	Satisfactory
9.5	72	84	17.6	82.4	70-88	Satisfactory
4.75	113	197	41.4	58.6	53-71	Satisfactory
2.36	72	269	56.5	43.5	42-56	Satisfactory
1.18	35	304	63.9	36.1	34-48	Satisfactory
0.6	26	330	69.3	30.7	26-38	Satisfactory
0.3	44	374	78.6	21.4	18-28	Satisfactory
0.15	41	415	87.2	12.8	12-20	Satisfactory
0.075	40	455	95.6	4.4	4-10	Satisfactory
Remarks: Satisfactory						
			Client	Contractor		

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TRANSHEIGHT CONSULTANTS PVT LTD

⑨ #1192, 'A' Block, 3rd Cross, 5th Main,
Sahakarnagar, Bangalore-560092

📞 098869 13195, 080236 29195

Name of Work : Improvements to Roads and Drains in Thindlu colony, Narasipura layout,
Kempegowdnagara and surrounding area in ward No. 09

Test Results of Bitumen Binder Content and Gradation for Bituminous Concrete (BC)

IS 2386 (Part-1) 1963 (Reaffirmed-2011)

Date: 29-02-2020

Lab I'd	ISO/IEC17025:2005
Client	Bruhat Bengaluru Mahanagara Palike (BBMP), Byatarayanapura, Bengaluru.
Consultant	Transheight Consultants Private Limited
Contractor	B.B Umesh (S.M.L.P Asphats)
Customer Reference	BBMP/EE/BTP/WO/110/2019-20
Source of Sample	Sample supplied by Agency
Type of Mix	Bituminous Concrete (BC)
Date of Test	29-02-20

Calculation

	Chainage:		
	Trial 1	Trial 2	Trial 3
Wt of empty Bowl (g)	1031	1031	1032
Wt of empty Bowl + Mix before extraction (g)	1531	1531	1532
Wt of empty Bowl + Mix after extraction (g)	1505.3	1504.9	1506.2
Wt of filter paper before extraction (g)	3.5	3.5	3.5
Wt of filter paper after extraction (g)	5.33	5.67	5.39
Wt of fines (g)	1.83	2.17	1.89
Wt of aggregate (g)	476.08	476.07	476.04
Wt of bitumin (g)	25.75	26.1	25.85
% binder contents in mix	5.41	5.48	5.43
Avg binder contents in mix (%)	5.44		

Remarks :



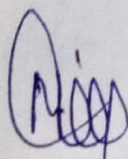
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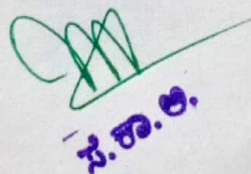
Contractor

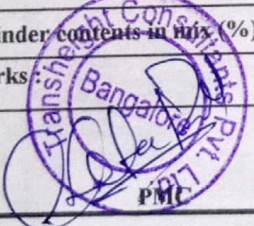
www.transheight.com

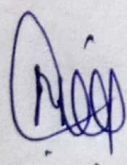
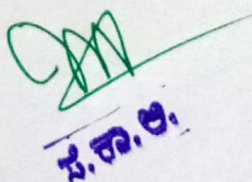
✉ transheight.consultant@gmail.com

Test Results of Bitumen Binder Content and Gradation for Bituminous Concrete (BC)					
					Date: 29-02-2020
After Extraction (Trial-1)					
Total wt of the sample (gms):			476.08		
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-17) (Grading-II)
19	0	0	0.0	100	100
13.2	13	13	2.7	97.3	90-100
9.5	76	89	18.7	81.3	70-88
4.75	109	198	41.6	58.4	53-71
2.36	82	280	58.8	41.2	42-56
1.18	25	305	64.1	35.9	34-48
0.6	19	324	68.1	31.9	26-38
0.3	41	365	76.7	23.3	18-28
0.15	45	410	86.1	13.9	12-20
0.075	41	451	94.7	5.3	4-10
Remarks: Satisfactory					
After Extraction (Trial-2)					
Total wt of the sample (gms):			476.27		
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)
19	0	0	0.0	100	100
13.2	16	16	3.4	96.6	90-100
9.5	79	95	20.0	80.0	70-88
4.75	103	198	41.6	58.4	53-71
2.36	82	280	58.8	41.2	42-56
1.18	30	310	65.1	34.9	34-48
0.6	12	322	67.6	32.4	26-38
0.3	47	369	77.5	22.5	18-28
0.15	45	414	87.0	13.0	12-20
0.075	40	454	95.4	4.6	4-10
Remarks: Satisfactory					
After Extraction (Trial-3)					
Total wt of the sample (gms):			476.09		
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)
19	0	0	0.0	100	100
13.2	14	14	2.9	97.1	90-100
9.5	71	85	17.9	82.1	70-88
4.75	112	197	41.4	58.6	53-71
2.36	70	267	56.1	43.9	42-56
1.18	37	304	63.9	36.1	34-48
0.6	25	329	69.1	30.9	26-38
0.3	42	371	77.9	22.1	18-28
0.15	40	411	86.3	13.7	12-20
0.075	39	450	94.5	5.5	4-10
Remarks: Satisfactory					
			Client	Contractor	





Name of work: Improvements to Roads and Drains in BEL Layout, HMT Layout, Rajivagandhi Nagar (NTI), Thindhu and surrounding in ward No. 09			
Test Results of Bitumen Binder Content and Gradation for Bituminous Macadam (BM-II)			
IS 2386 (Part-1) 1963 (Reaffirmed-2011)			Date: 16-03-2020
Lab I'd	ISO/IEC17025:2005		
Client	Bruhat Bengalore Mahanagara Palike (BBMP) , Byatarayanapura, Bengaluru.		
Consultant	Transheight Consultants Private Limited		
Contractor	B.B Umesh (S.M.L.P Asphats)		
Customer Reference	BBMP/EE/BTP/WO/110/2019-20		
Source of Sample	Sample supplied by Agency		
Type of Mix	Bituminous Macadam (BM-II)		
Date of Test	3/16/2020		
Calculation			
	Chainage:		
	Trial 1	Trial 2	Trial 3
Wt of empty Bowl (g)	1032	1033	1031
Wt of empty Bowl + Mix before extraction (g)	1532	1533	1531
Wt of empty Bowl + Mix after extraction (g)	1515.4	1516.2	1514.1
Wt of filter paper before extraction (g)	3.5	3.5	3.5
Wt of filter paper after extraction (g)	5.3	5.32	5.35
Wt of fines (g)	1.8	1.82	1.85
Wt of aggregate (g)	485.2	485.02	484.95
Wt of bitumin (g)	16.6	16.8	16.9
% binder contents in mix	3.42	3.46	3.48
Avg binder contents in mix (%)	3.46		
Remarks:			
			
Client		Contractor	

B.B. Umesh

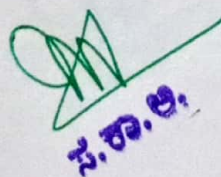
Test Results of Bitumen Binder Content and Gradation for Bituminous Macadam (BM-II)						
						Date: 16-03-2020
After Extraction (Trial-1)						
Total wt of the sample (gms):			485.2			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-17) (Grading-II)	Remarks
26.5	0	0	0.0	100	100	Satisfactory
19	10	10	2.1	97.9	90-100	Satisfactory
13.2	63	73	15.0	85.0	56-88	Satisfactory
4.75	283	356	73.4	26.6	16-36	Satisfactory
2.36	49	405	83.5	16.5	4-19	Satisfactory
0.3	64	469	96.7	3.3	2-10	Satisfactory
0.075	11	480	98.9	1.1	0-8	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-2)						
Total wt of the sample (gms):			485.02			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
26.5	0	0	0.0	100	100	Satisfactory
19	10	10	2.1	97.9	90-100	Satisfactory
13.2	74	84	17.3	82.7	56-88	Satisfactory
4.75	303	387	79.8	20.2	16-36	Satisfactory
2.36	53	440	90.7	9.3	4-19	Satisfactory
0.3	33	473	97.5	2.5	2-10	Satisfactory
0.075	6	479	98.7	1.3	0-8	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-3)						
Total wt of the sample (gms):			484.95			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
26.5	0	0	0.0	100	100	Satisfactory
19	10	10	2.1	97.9	90-100	Satisfactory
13.2	86	96	19.8	80.2	56-88	Satisfactory
4.75	302	398	82.0	18.0	16-36	Satisfactory
2.36	33	431	88.8	11.2	4-19	Satisfactory
0.3	29	460	94.8	5.2	2-10	Satisfactory
0.075	8	468	96.5	3.5	0-8	Satisfactory
Remarks: Satisfactory						
Client			Contractor			



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S. S. S.

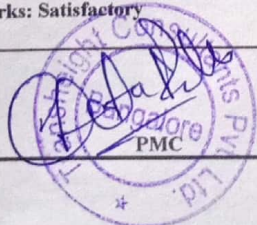
Name of work: Improvements to Roads and Drains in BEL Layout, HMT Layout, Rajivagandhi Nagar (NTI), Thindhu and surrounding in ward No. 09			
Test Results of Bitumen Binder Content and Gradation for Bituminous Macadam (BM-II)			
IS 2386 (Part-1) 1963 (Reaffirmed-2011)		Date: 18-03-2020	
Lab I'd	ISO/IEC17025:2005		
Client	Bruhat Bengaluru Mahanagara Palike (BBMP), Byatarayanapura, Bengaluru.		
Consultant	Transheight Consultants Private Limited		
Contractor	B.B Umesh (S.M.L.P Asphats)		
Customer Reference	BBMP/EE/BTP/WO/110/2019-20		
Source of Sample	Sample supplied by Agency		
Type of Mix	Bituminous Macadam (BM-II)		
Date of Test	3/18/2020		
Calculation			
	Chainage:		
	Trial 1	Trial 2	Trial 3
Wt of empty Bowl (g)	1032	1033	1032
Wt of empty Bowl + Mix before extraction (g)	1532	1533	1532
Wt of empty Bowl + Mix after extraction (g)	1515.1	1516.2	1515.1
Wt of filter paper before extraction (g)	3.5	3.5	3.5
Wt of filter paper after extraction (g)	5.38	5.34	5.28
Wt of fines (g)	1.88	1.84	1.78
Wt of aggregate (g)	484.98	485.04	484.88
Wt of bitumin (g)	16.9	16.8	16.9
% binder contents in mix	3.48	3.46	3.49
Avg binder contents in mix (%)	3.48		
Remarks :			
			
PMC	Client	Contractor	


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Test Results of Bitumen Binder Content and Gradation for Bituminous Macadam (BM-II)						
						Date: 18-03-2020
After Extraction (Trial-1)						
Total wt of the sample (gms):			484.98			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-17) (Grading-II)	Remarks
26.5	0	0	0.0	100	100	Satisfactory
19	9	9	1.9	98.1	90-100	Satisfactory
13.2	92	101	20.8	79.2	56-88	Satisfactory
4.75	301	402	82.9	17.1	16-36	Satisfactory
2.36	44	446	92.0	8.0	4-19	Satisfactory
0.3	29	475	97.9	2.1	2-10	Satisfactory
0.075	4	479	98.8	1.2	0-8	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-2)						
Total wt of the sample (gms):			485.04			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
26.5	0	0	0.0	100	100	Satisfactory
19	10	10	2.1	97.9	90-100	Satisfactory
13.2	95	105	21.7	78.3	56-88	Satisfactory
4.75	298	403	83.1	16.9	16-36	Satisfactory
2.36	30	433	89.3	10.7	4-19	Satisfactory
0.3	38	471	97.1	2.9	2-10	Satisfactory
0.075	6	477	98.4	1.6	0-8	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-3)						
Total wt of the sample (gms):			484.88			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
26.5	0	0	0.0	100	100	Satisfactory
19	15	15	3.1	96.9	90-100	Satisfactory
13.2	88	103	21.2	78.8	56-88	Satisfactory
4.75	291	394	81.2	18.8	16-36	Satisfactory
2.36	31	425	87.6	12.4	4-19	Satisfactory
0.3	38	463	95.5	4.5	2-10	Satisfactory
0.075	8	471	97.1	2.9	0-8	Satisfactory
Remarks: Satisfactory						
			Client	Contractor		



Signature

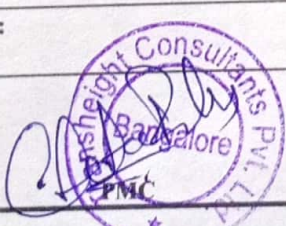
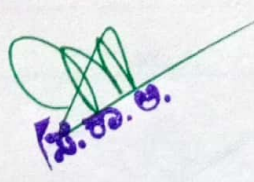
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S. R. S.

Name of work: Improvements to Roads and Drains in BEL Layout, HMT Layout, Rajivagandhi Nagar (NTI), Thindhu and surrounding in ward No. 09			
Test Results of Bitumen Binder Content and Gradation for Bituminous Concrete (BC)			
IS 2386 (Part-1) 1963 (Reaffirmed-2011)		Date: 16-03-2020	
Lab I'd	ISO/IEC17025:2005		
Client	Bruhat Bangalore Mahanagara Palike (BBMP), Byatarayanapura, Bengaluru.		
Consultant	Transheight Consultants Private Limited		
Contractor	B.B Umesh (S.M.L.P Asphats)		
Customer Reference	BBMP/EE/BTP/WO/110/2019-20		
Source of Sample	Sample supplied by Agency		
Type of Mix	Bituminous Concrete (BC)		
Date of Test	3/16/2020		
Calculation			
	Chainage:		
	Trial 1	Trial 2	Trial 3
Wt of empty Bowl (g)	1032	1031	1032
Wt of empty Bowl + Mix before extraction (g)	1532	1531	1532
Wt of empty Bowl + Mix after extraction (g)	1506.0	1505.2	1505.9
Wt of filter paper before extraction (g)	3.5	3.5	3.5
Wt of filter paper after extraction (g)	5.23	5.57	5.4
Wt of fines (g)	1.73	2.07	1.9
Wt of aggregate (g)	475.68	476.27	475.8
Wt of bitumin (g)	26.05	25.8	26.1
% binder contents in mix	5.48	5.42	5.49
Avg binder contents in mix (%)	5.46		
Remarks :			
			
Client		Contractor	

(Signature)

(Signature)
B.B. Umesh

Test Results of Bitumen Binder Content and Gradation for Bituminous Concrete (BC)						
						Date: 16-03-2020
After Extraction (Trial-1)						
Total wt of the sample (gms):			475.68			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-17) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	15	15	3.2	96.8	90-100	Satisfactory
9.5	94	109	22.9	77.1	70-88	Satisfactory
4.75	113	222	46.7	53.3	53-71	Satisfactory
2.36	51	273	57.4	42.6	42-56	Satisfactory
1.18	34	307	64.5	35.5	34-48	Satisfactory
0.6	40	347	72.9	27.1	26-38	Satisfactory
0.3	33	380	79.9	20.1	18-28	Satisfactory
0.15	26	406	85.4	14.6	12-20	Satisfactory
0.075	35	441	92.7	7.3	4-10	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-2)						
Total wt of the sample (gms):			476.27			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	10	10	2.1	97.9	90-100	Satisfactory
9.5	95	105	22.1	77.9	70-88	Satisfactory
4.75	103	208	43.7	56.3	53-71	Satisfactory
2.36	55	263	55.3	44.7	42-56	Satisfactory
1.18	37	300	63.1	36.9	34-48	Satisfactory
0.6	45	345	72.5	27.5	26-38	Satisfactory
0.3	40	385	80.9	19.1	18-28	Satisfactory
0.15	22	407	85.6	14.4	12-20	Satisfactory
0.075	38	445	93.6	6.4	4-10	Satisfactory
Remarks: Satisfactory						
After Extraction (Trial-3)						
Total wt of the sample (gms):			475.8			
IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	12	12	2.5	97.5	90-100	Satisfactory
9.5	93	105	22.1	77.9	70-88	Satisfactory
4.75	112	217	45.6	54.4	53-71	Satisfactory
2.36	52	269	56.6	43.4	42-56	Satisfactory
1.18	39	308	64.7	35.3	34-48	Satisfactory
0.6	39	347	72.9	27.1	26-38	Satisfactory
0.3	37	384	80.7	19.3	18-28	Satisfactory
0.15	27	411	86.4	13.6	12-20	Satisfactory
0.075	38	444	93.3	6.7	4-10	Satisfactory
Remarks: Satisfactory						
PMC			Client		Contractor	

Name of work: Improvements to Roads and Drains in BEL Layout, HMT Layout, Rajivagandhi Nagar (NTI), Thindhu and surrounding in ward No. 09			
Test Results of Bitumen Binder Content and Gradation for Bituminous Concrete (BC)			
IS 2386 (Part-1) 1963 (Reaffirmed-2011)		Date: 16-03-2020	
Lab I'd	ISO/IEC17025:2005		
Client	Bruhat Bangalore Mahanagara Palike (BBMP) , Byatarayanapura, Bengaluru.		
Consultant	Transheight Consultants Private Limited		
Contractor	B.B Umesh (S.M.L.P Asphats)		
Customer Reference	BBMP/EE/BTP/WO/110/2019-20		
Source of Sample	Sample supplied by Agency		
Type of Mix	Bituminous Concrete (BC)		
Date of Test	3/16/2020		
Calculation			
	Chainage:		
	Trial 1	Trial 2	Trial 3
Wt of empty Bowl (g)	1033	1034	1035
Wt of empty Bowl + Mix before extraction (g)	1533	1534	1535
Wt of empty Bowl + Mix after extraction (g)	1506.8	1507.9	1509.2
Wt of filter paper before extraction (g)	3.5	3.5	3.5
Wt of filter paper after extraction (g)	5.25	5.32	5.39
Wt of fines (g)	1.75	1.82	1.89
Wt of aggregate (g)	475.55	475.72	476.09
Wt of bitumin (g)	26.2	26.1	25.8
% binder contents in mix	5.51	5.49	5.42
Avg binder contents in mix (%)	5.47		
Remarks :			
 			
Client		Contractor	



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Test Results of Bitumen Binder Content and Gradation for Bituminous Concrete (BC)

Date: 16-03-2020

After Extraction (Trial-1)

Total wt of the sample (gms):

475.55

IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-17) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	12	12	2.5	97.5	90-100	Satisfactory
9.5	77	89	18.7	81.3	70-88	Satisfactory
4.75	115	204	42.9	57.1	53-71	Satisfactory
2.36	70	274	57.6	42.4	42-56	Satisfactory
1.18	22	296	62.2	37.8	34-48	Satisfactory
0.6	19	315	66.2	33.8	26-38	Satisfactory
0.3	41	356	74.9	25.1	18-28	Satisfactory
0.15	41	397	83.5	16.5	12-20	Satisfactory
0.075	33	430	90.4	9.6	4-10	Satisfactory

Remarks: Satisfactory

After Extraction (Trial-2)

Total wt of the sample (gms):

475.72

IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	11	11	2.3	97.7	90-100	Satisfactory
9.5	79	90	18.9	81.1	70-88	Satisfactory
4.75	101	191	40.2	59.8	53-71	Satisfactory
2.36	79	270	56.8	43.2	42-56	Satisfactory
1.18	29	299	62.9	37.1	34-48	Satisfactory
0.6	11	310	65.2	34.8	26-38	Satisfactory
0.3	34	344	72.3	27.7	18-28	Satisfactory
0.15	44	388	81.6	18.4	12-20	Satisfactory
0.075	40	428	90.0	10.0	4-10	Satisfactory

Remarks: Satisfactory

After Extraction (Trial-3)

Total wt of the sample (gms):

476.09

IS Sieve size (mm)	Weight retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specifications as per MORTH (Table 500-23) (Grading-II)	Remarks
19	0	0	0.0	100	100	Satisfactory
13.2	13	13	2.7	97.3	90-100	Satisfactory
9.5	71	84	17.7	82.3	70-88	Satisfactory
4.75	110	194	40.8	59.2	53-71	Satisfactory
2.36	68	262	55.1	44.9	42-56	Satisfactory
1.18	32	294	61.8	38.2	34-48	Satisfactory
0.6	26	320	67.3	32.7	26-38	Satisfactory
0.3	39	363	76.3	23.7	18-28	Satisfactory
0.15	46	409	86.0	14.0	12-20	Satisfactory
0.075	39	448	94.2	5.8	4-10	Satisfactory

Remarks: Satisfactory

PMC

Client

Contractor



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